

ABSTRACT OF THE DISCLOSURE

A system and method of wavelength discovery in network elements having an optical architecture. In one embodiment, a first wavelength topology map is generated for wavelengths inserted in a first direction at each network element. A second wavelength topology map is generated for wavelengths inserted in a second direction at each network element. The first wavelength topology maps are transmitted in the first direction to adjacent network elements over a dedicated overhead wavelength channel. Similarly, the second wavelength topology maps are transmitted in the second direction to adjacent network elements over the dedicated overhead wavelength channel. Responsive to messaging via the dedicated overhead wavelength channel, each of the first and second topology maps are updated at each of the network elements.